CLAIMS

1. A front body structure of a vehicle, comprising:

a pair of right and left front side members (10, 12) disposed at a front portion of a vehicle body along a longitudinal direction of the vehicle body;

a connecting member (20) including ends (22A, 24A, 22B, 24B) in a transverse direction of the vehicle, the ends (22A, 24A) and the ends (22B, 24B) being respectively fixed to front fixing portions (10B, 12B) and rear fixing portions (10C, 12C) of the pair of right and left front side members (10, 12); and

fixing mechanisms (50, 52) disposed on the right and left rear fixing portions (10C, 12C), the fixing mechanisms (50, 52) releasing, when a load applied to the front side members (10, 12) from a front side of the vehicle is equal to or more than a predetermined value at a time of full-lapped collision, a state in which the front side members (10, 12) are fixed to the connecting member (20), and maintaining, at a time of offset collision, a state in which the collided front side member (10 or 12) is fixed to the connecting member (20).

2. The front body structure of a vehicle of claim 1, wherein the connecting member (20) is a front suspension member (20).

3. The front body structure of a vehicle of claim 1, wherein the fixing mechanisms (50, 52) include slits (82) extending parallel to the front side members (10, 12) and first branches (82B) branching from vicinities of rear-end openings (82A) of the slits (82) toward inner rear sides of the vehicle, and fixing members (58, 60, 72) of the connecting member (20) can move in the slits (82) and the first branches (82B).

4. The front body structure of a vehicle of claim 3, wherein the first branches (82B) are structured such that, at the time of offset collision, the fixing members (58 or 60, and 72) fixing the connecting member (20) to the collided front side member (10 or 12) move and fit into the first branch (82B) of the slit (82).

5. The front body structure of a vehicle of claim 3, wherein the slits (82) further include second branches (82D) branching toward outer rear sides of the vehicle.

6. The front body structure of a vehicle of claim 3, wherein the second branches (82B) are structured such that, at the time of offset collision, the fixing members (58 or 60, and 72) fixing the connecting member (20) to the other front side member (10 or 12) opposite to the collided front side member (10 or 12) move and fit into the second branch (82B) of the slit (82).

7. The front body structure of a vehicle of claim 1, wherein the fixing mechanisms (50, 52) include slits (82) which extend parallel to the front side members (10, 12) and in which fixing members (58, 60, 72) of the connecting member (20) can move, and movement restraint mechanisms (82C) for restraining movement of the connecting member (20) are formed in inner peripheral surfaces of the slits (82).

8. The front body structure of a vehicle of claim 1, wherein the fixing mechanisms (50, 52) include slits (82) which extend parallel to the front side members (10, 12) and in which fixing members (58, 60, 72) of the connecting member (20) can move, and lock mechanisms (92) for opening and closing opening ends (82A) are provided near the slits (82), and at the time of offset collision, the lock mechanism (92) closes the opening end (82A) of the slit (82) of the fixing mechanism (50 or 52) provided on the collided front side member (10 or 12), based on detection signals from collision detection sensors (86, 88) disposed at a front portion (84A) of the vehicle body (84).

9. The front body structure of a vehicle of claim 1, structured such that reaction force (F1) of the right and left front side members (10, 12) at the time of full-lapped collision becomes substantially equal to total reaction force (F5) at the time of offset collision.

10. The front body structure of a vehicle of claim 9, structured such that, at the time of offset collision, the connecting member (20) receives a part of the collision load the collided front side member (10 or 12) receives so that a part of impact can be absorbed.